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## NEW AND LITTLE KNOWN SPECIES OF AMNICOLIDAE.

BY BRYANT WALKER.

Most of the following species were found by Mr. A. A. Hinkley of Du Bois, Illinois, while on a collecting trip through Tennessee, Mississippi and Alabama, in the fall of 1904. A few others received from different sources have also been included.

SOMATOGYRUS SUBSTRIATUS, n. sp. Pl. 5, fig. 1.

Shell subglobose, imperforate, shining, light greenish-yellow, lightly but distinctly striate, spire somewhat elevated, apex obtuse. Whorls 4-4½, those of the spire prominent and roundly shouldered; body-whorl large and well rounded; suture deeply impressed. Aperture large, quite oblique, suborbicular, slightly emarginate at the base and somewhat roundly projecting at the juncture of the lip with the base of the columella; lip thin, projecting above and drawn back below. Slightly thickened within. Columella rather narrow, with a heavy rounded callous, which is thinner on the body-whorl and separated below by a narrow axial groove.

Alt. (apex eroded) 6, diam. 4 mm.

Types (No. 22370 Coll. Walker) from the Tennessee River at Florence, Ala. Also Tombigbee River at Columbus, Miss. Cotypes in the collections of the Academy of Natural Sciences and A. A. Hinkley.

This is one of the largest species of the genus, being exceeded in size only by *S. subglobosus*. It is a well marked form, very much like a small *Fluminicola nuttalliana* Lea, in appearance, and is easily

distinguished by its size, elevation of spire and striate surface. It occurred in considerable abundance at both localities.

*SOMATOGYRUS HUMEROSUS*, n. sp. Pl. 5, fig. 2.

Shell small, subglobular, imperforate, pale-green, smooth, shining; spire prominent, short, sub-conic with a small, obtuse apex. Whorls  $3\frac{1}{2}$ , roundly shouldered above and flattened toward the suture, body inflated, somewhat flattened on the periphery and at the base; suture deeply impressed. Aperture large, subcircular, slightly emarginate below. Lip thickened throughout, the callus rounding out to a sharp edge. Columella concave, with a heavy, flat callus which extends from one extremity of the lip to the other, and entirely covers the umbilicus.

Alt. 4, diam. 3.75 mm.

Types (No. 22372 Coll. Walker) from the Tennessee River at Florence, Ala. Cotypes in the collection of the Academy of Natural Sciences and A. A. Hinkley.

The only species to which this can be compared is the *S. crassus* from the Coosa. It differs, however, in being less solid and more globular, in the heavily shouldered whorls and the flattening of the periphery and base.

*SOMATOGYRUS QUADRATUS*, n. sp. Pl. 5, figs. 3 and 4.

Shell subglobose, turbinata, imperforate, thick, solid, greenish-yellow, smooth, except for fine lines of growth. Spire elevated, obtuse, whorls  $3\frac{1}{2}$ , strongly and roundly shouldered, flattened above and on the sides; body-whorl large, quadrate, sometimes somewhat swollen above. Aperture rounded but not expanded. Columella with a very heavy, rather narrow, flattened callus which extends over the parietal wall and is separated below the axis from the body-whorl by a deep axial groove. Lip sharp, heavily thickened within; its insertion on the parietal wall is below the periphery.

Alt. (fig. 3, apex eroded) 4, diam. 3 mm.

Alt. (fig. 4, apex eroded) 4.25, diam. 3.5 mm.

Types (No. 22373 Coll. Walker) from the Tennessee River, Florence, Ala. Also Shoal Creek at the same place. Cotypes in the collections of the Academy of Natural Sciences and A. A. Hinkley.

This species is closely allied to *S. georgianus*, but differs uniformly in being smaller and imperforate, in the flattened, heavily-shouldered whorls and smaller aperture. As shown by the figures there is con-

siderable variation in the shape, some examples being almost sub-cylindrical, while others are more inflated toward the shoulder. This is perhaps a sexual difference, and has been noticed in one or two other species.

*SOMATOGYRUS STRENGI* Pilsbry and Walker, n. sp. Pl. 5, fig. 5.

Shell small, globose, umbilicate, pale green, smooth, with very fine lines of growth. Spire short, depressed, flattened at the apex. Whorls 3, convex, slightly flattened toward the suture, which is well impressed; body-whorl large, inflated. Aperture broadly ovate, angled above and rounded below. Lip sharp, somewhat roundly expanded at its juncture with the base of the columella. Columella concave, narrow; columellar callus flattened, extending over the parietal wall, separated below by a well-defined axial groove.

Alt. 3, diam. 3 mm.

Types (No. 22374 Coll. Walker) from the Tennessee River, Florence, Ala. Also Shoal Creek at the same place and Bridgeport, Ala. Cotypes in the collections of the Academy of Natural Sciences and A. A. Hinkley. This very distinct little species was found in considerable abundance at both localities at Florence. It is the Tennessean analogue of the Coosan *S. umbilicatus*, but differs in the depressed spire, more inflated form, flattened columella and axial groove.

A single immature example of this species from Bridgeport, Ala., received from Mr. L. H. Streng, of Grand Rapids, Mich., has been in the collection of the Academy for several years, but has been withheld from publication until further material could be had. Dr. Pilsbry and myself unite in naming this interesting form after Mr. Streng, who for more than fifty years has been actively interested in conchology, and who is the last survivor of the group of collectors that for many years made Grand Rapids the scientific centre of the State.

*SOMATOGYRUS BIANGULATUS*, n. sp. Pl. 5, fig. 6.

Shell small, obtusely-conic, turbiniform, umbilicate, light greenish-yellow, smooth, lines of growth very fine, spire elevated, flattened at the apex. Whorls  $3\frac{1}{2}$ , regularly increasing, angularly shouldered above, flattened above and below the shoulder; body-whorl moderately large, biangulate, shoulder flattened, sloping obliquely from the

suture to the superior angle, which is quite obtuse, periphery carinate, the whorl being almost straight between the two angles, obliquely flattened below. Aperture moderate, subcircular; slightly modified by the angle of the body-whorl, and slightly expanded at its juncture with the columella. Columella very narrow, rounded; columellar callus not very heavy, thin and transparent on the parietal wall.

Alt. 3, diam. 2.75 mm.

Tennessee River, Florence, Ala. Types (No. 22376 Coll. Walker). Cotypes in collection of A. A. Hinkley.

Only two specimens of this remarkable little species were found. But it is so entirely distinct from all the known species that I have no hesitation in describing it. With the exception of *S. aldrichi*, herein described, it is the only carinate species known.

SOMATOGYRUS EXCAVATUS, n. sp. Pl. 5, fig. 7.

Shell small, globosely-conic, imperforate, rather thick, solid, pale green, smooth, lines of growth very fine. Spire short, conic, obtuse; whorls  $3\frac{1}{2}$ ; those of the spire convex, with a well-impressed suture; body-whorl rather inflated, convexly rounded. Aperture subcircular, slightly angled above and broadly rounded below. Columella very concave, with a moderately wide, heavy, flat callus, which extends over the parietal wall, and below the axis is separated by a wide axial groove. Lip simple, but thickened within and somewhat emarginate below.

Alt.  $3\frac{1}{2}$ , diam. 3 mm.

Shoal Creek, Florence, Ala. Types (No. 22378 Coll. Walker). Cotypes in the collections of the Academy of Natural Sciences and A. A. Hinkley. A solid little species, distinguished by its globosely conic shape, thickened lip and axial groove.

(*To be continued.*)

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#### A NEW TERTIARY PLANORBIS.

BY T. D. A. COCKERELL.

PLANORBIS FLORISSANTENSIS, n. sp.

Diameter about  $2\frac{2}{3}$  mm., flattish, with about  $4\frac{1}{4}$  slightly convex whorls, the last rapidly enlarging, much in the manner of *P. albus*,